

Stock Brokerage and Exchange Application - Setup Guide

Implementing a Responsive Web Site and Scalable Web Application based on the Service Oriented Architecture implemented using Web Services

Getting Started

These instructions will get you a copy of the application up and running on your local machine for development and testing purposes.

Softwares/SDKs

Required Tools and Softwares

1. Java 8 or later
2. MySQL 5.7
3. Apache Tomcat 9.0
4. Eclipse 2019-09 version
5. RabbitMQ
6. Memcache
7. Any OS, MacOS/Windows

Recommended Tools and Softwares

1. MySQL Workbench 6.3.10
2. Postman REST Client

End to End Setup Instructions

Once you get all the required softwares and if possible the additional tools installed, follow the setup guidelines for each of the below sections

Database

- Run the SQL files from the folders below, on the MySQL Database. This will setup the datamodel and also insert sample seed data for the application to begin
 - <https://github.com/amtul-nazneen/stock-brokerage-webapp/tree/master/sqlDump/mysql/datamodel>
 - <https://github.com/amtul-nazneen/stock-brokerage-webapp/tree/master/sqlDump/mysql/seedData>
- Make sure you update the config properties with your MySQL root username and password here:
<https://github.com/amtul-nazneen/stock-brokerage-webapp/blob/master/src/app/config/Config.java>

Tomcat

- After downloading the Apache Tomcat zip, make three copies of the tomcat folder [Ex: tomcat1, tomcat2, tomcat3]
- Make the below changes to each of their config folders
- Tomcat 1
 - Setup it on port 8443
 - Replace its server.xml content with the attached server1.xml file content
 - Create a jks file and add the server2.crt file in the keystore
 - Refer to script.txt in the attached folder for the keystore and keytool commands
 - Sample server1.jks and server2.crt are provided in the folder
- Tomcat 2
 - Setup it on port 9443
 - Replace its server.xml content with the attached server2.xml file content
 - Create a jks file and add the server3.crt file in the keystore
 - Refer to script.txt in the attached folder for the keystore and keytool commands
 - Sample server2.jks and server3.crt are provided in the folder
- Tomcat 3
 - Setup it on port 7443
 - Replace its server.xml content with the attached server1.xml file content
 - Create a jks file in the keystore
 - Refer to script.txt in the attached folder for the keystore and keytool commands
 - Sample server3.jks is provided in the folder

Cache

- Install MemCache for your OS and once done, make sure that its running or host:127.0.0.1, port:11211
- In the event that your host and port details are different, make sure you update this config file <https://github.com/amtul-nazneen/stock-brokerage-website/blob/master/src/app/config/Config.java>

Queue

- Install RabbitMQ for your OS and once done, make sure that its running or host:127.0.0.1, port:11211
- In the event that your host is different, make sure you update this config file <https://github.com/amtul-nazneen/stock-brokerage-webapp/blob/master/src/app/config/Config.java> with the RabbitMQ Host Details
- If you want to change the Queue details for Asynchronous Buy and Sell, you can update the details here: <https://github.com/amtul-nazneen/stock-brokerage-webapp/blob/master/src/app/config/Constants.java>

Applications

- Download the latest code for all three applications from the links below or from E-Learning
 - <https://github.com/amtul-nazneen/stock-brokerage-website>
 - <https://github.com/amtul-nazneen/stock-brokerage-webapp>
 - <https://github.com/amtul-nazneen/stock-exchange-webapp>
- Open each of the applications in a separate Eclipse instance
- Setup the following applications in Eclipse with the following servers
 - stock-brokerage-website: tomcat1
 - stock-brokerage-webapp: tomcat2
 - stock-exchange-webapp: tomcat3

Misc Configurations

- Below are the list of all configuration files that are used in the project. If any changes, make sure to update these
 - <https://github.com/amtul-nazneen/stock-brokerage-website/tree/master/src/app/config>
 - <https://github.com/amtul-nazneen/stock-brokerage-webapp/tree/master/src/app/config>
 - <https://github.com/amtul-nazneen/stock-exchange-webapp/blob/master/src/app/config>

Running the application

- Deploy each of the applications from Eclipse onto the Apache Tomcat server
- Start the MemCache and RabbitMQ services
- Make sure that your MySQL service is running
- Go to the url of the stock-brokerage-website and login with any user
 - To get a user detail to login, use the query from `'SELECT USERNAME,PWD FROM STOCKS.WPL_USER';`
- The environment is ready for testing

Verification

- Most of the functionalities output can be viewed from the UI itself
- But for specifics, the database can be queried
- Logs are enabled on each server which is displayed in the Eclipse Console

Authors

- Amtul Nazneen - [amtul-nazneen](#)
- Hemanjeni Kundem - [hemanjeni](#)
- Asma Sadat - [axs180236](#)